

Re: N.Y. Acad. Sci / Tsutsui Committee

Informal remarks on the principle of a fixed annual growth rate for federal support of science.

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I have very serious reservations about this demand for a 15% growth rate. I think unless that document is justified in much more detail than this it will be thrown out as laughable.

There is a question of how it can possibly be financed, and how it ought to relate to the economic growth of the country, and how long such growth will continue. It is obvious one can demonstrate there will be more scientists than people after n years, and I think it will be parodied and lose its effectiveness unless you are extremely cautious about making that kind of claim. Now, the way in which that number could be used is that, pending the development of a more comprehensive policy about the role of investment in science, it would be possible to absorb a 15% growth rate over the next few years in terms of the availability of personnel, of the availability of excellent projects to support, and that it would be in the national interest to continue to maintain this kind of growth until we have reached a different posture, different relationship, of science to the other sectors of the society. But without some qualifying language of that kind it is just so easy to parody that it will just be shrugged off. I think that's the wrong way to pose the problem.

This is an important problem, that scientists be understood to realize that science has to be developed in keeping with the development of the rest of the economy. There is almost a total ignoring of that issue, and all you have to do is read Senator Allott's remarks in Science for October 11, 1968 and you'll see the kind of thing you're running into. First of all, there is the question of what we are talking about when we are talking about research. He still uses that number \$17 billion, and it makes an enormous difference if you are predicating a growth rate of 15% a year if you are talking about 15% of \$17 billion, or 15% of \$1.5 billion. The second point is that we are talking about seedcorn--we are talking about protecting the center of advanced research which is in our educational system. The distinctions are not so much as to whether research is basic or applied as it is as to whether they contribute to the further education of the country.

Let me remark that when it comes to financing I think one ought to say there could very well be a fluctuation in the amount of investment in the more applied end of the game; that this is the part that can go up and down with the economy, and that the basic part is the part that ought to have a greater degree of stability since it has such an important generative function with respect to its relationship to education, and in fact, the way in which the current emergency ought to be financed is unquestionably out of defensible applied projects. Now I know you run into political headaches when you do this, but it seems to me completely unjustifiable to have proceeded with the supersonic transport, and I think you can probably name a half-a-dozen others of this kind, and starve out basic science. The supersonic transport kind of investment can go up and down, depending on how comfortable we feel; it is a project that can be done at different rates, and it isn't going to make all that difference if it's stretched out for one or two years, where it makes an enormous difference in the educational

process if you have the sudden turning off of funds. I don't want to focus on any one applied project because that's politically dangerous.

This is what we're concerned about, and it's a relatively small amount of money. I think the New York Times editorial that I sent back to you was one of the best statements on this point that's come out. It was better than the original hardship announcements of your Town Meeting, which I have to agree, at least as they came out in the press, were hysterical. They drew some attention to this problem, but I think they did more harm than good, in my own opinion.

The second point that I would like to make is that the amplitude of the investment in applied work should reflect social concern for getting those particular results, and I feel, for example, that to talk about a specific growth rate is nonsense. You talk in applied work in terms of what problems you want to solve. It may end up being another billion dollar investment starting fairly suddenly to go into artificial hearts, to give you one particular example, and you can encompass that within a growth rate figure. When you start major new programs they have justifications in and of themselves, and they compete for resources, in manpower and so on, with the rest of the programs, but they've got nothing to do with growth rate.

Now, I think there's a point that should be made also. The cutbacks in grant funds have come at the same time that private institutions are under very heavy pressure to meet social needs in the community. We feel this very strongly in the Medical School; for example, we are trying to set up a minorities program, and if we had any funds to do it they were under very severe attack because of the cutback in federal support for research and for our other functions. The coincidence of these two happening together makes for an intolerable strain. The accusation that is going to be leveled against this report and against its authors is that they just are not giving any concern for all of the major upsets in society. All they care about is protecting their own bailiwick, they are acting out of strict self-interest, and I think you must answer that kind of accusation. You must anticipate it.

Now, to go back to the distinction of basic from applied. The important point is intramural university support is the kind of budget number that we ought to look at. There is no justification whatsoever that this segment should be taxed against--that the tax against our credit for doing research in our own laboratories should be connected with the fact that Los Alamos is administered under a university contract. That is not university research. Besides its being mission-oriented, it is not done at a university. I am trying to make a separate distinction, not between basic and applied, but whether it's educationally contributory or not. And that's the core of the money that we're trying to find here, and that's where all the crunch is coming from. And then you're talking about less than a billion dollars that's at stake, and a \$200 million cut in that is an enormous burden. It keeps coming up because we see an allocation of resources to the different states--California always comes out on the top in terms of federal resources for research and education, and one of the main reasons is that the University of California has the Los Alamos laboratories contract, and it has the Livermore laboratories, which have negligible educational function. I presume I've made my point.